

The MMSFORTH Newsletter

MILLER MICROCOMPUTER SERVICES

61 LAKE SHORE ROAD, NATICK, MASS. 01760
(617) 653-6136

VOL 3 NO 1
June 1983
Copyright 1983 by MMS

LISTENING TO YOU, AND VICE VERSA (Editorial)

Most of you help MMS to develop better products, and we pay attention to your comments. As a software developer and publisher, MMS has thousands of customer-users and hundreds of hourly clients. We offer a wide variety of "standard" applications programs, a remarkably flexible development environment, and the resources to develop custom software for an unending parade of special needs. The combination of this variety, the MMSFORTH User Groups, and our own interest in our products also generates an unusually high volume of user feedback to keep us on our toes and to generate improvements each time we rework a MMSFORTH program or manual.

Whenever our workload permits, we like to answer each comment with solutions to any questions posed. But sometimes we don't have the time. Some letters and calls arrive here without proper or legible identification (envelopes often become separated from the text). Some messages are confusing, or unrealistically detailed. (MMS sells its consulting services.) If the purpose of your comments is to elicit a specific reply, we strongly recommend that you call MMS first; don't write. In general, understanding letters and generating replies is prohibitively time-consuming: your letters are at least three times less effective than live phone calls to MMS! Either way, please understand that our technical people have limited time, and that it may not be available when you first call. Our support is offered on an as-available basis between 9 a.m. and 9 p.m., which is far better than most.

Your suggestions for future product design will definitely be considered. However, the complex trade-offs involved in any real application program preclude many apparently positive suggestions from gracefully coexisting with other valued features, or with the space and speed requirements of the program. In other words, when something has to give it may be the very suggestion which we solicited.

This frustrating fact of life suggests to some of our less forgiving users that we don't care, or that we are stupid. We notice that their complaints usually mention their own high level of capability, but that it is in some other field. One such argument might run, "If my \$50,000 blood transfusion equipment is debugged, why can't you folks handle all error conditions in your much simpler (i.e., less costly) software?" Part of the reason is that MMSFORTH is much more complex than a program to do one specific job with one set of hardware, and another part is that MMS didn't charge \$50,000 to do a more thorough (but still incomplete) study of all possible combinations within the computer, as well as with many independent disk drives, printers, etc. Excessive error-protection code limits the "openness" of Forth, and would diminish system performance if lavished on every imaginable but non-critical concern.

Professional programmers are more apt to understand those trade-offs, but some cannot understand our software pricing and/or licensing agreement. This is another area where someone else officiates, paying the programmers' daily keep without requiring them to handle the details. Thus, the programmer who casually uses mainframe utilities may not see either the tremendous investment which produced the software or even his own company's large fee for the license to run it. (Some universities get it free, to the greater expense of commercial users.) But the software licensing he takes for granted is expensive for his employer, and at least as constraining. Until MMSFORTH becomes very popular, MMS must efficiently recover from the real user base the cost of maintaining it in top-notch form. Our licensing and pricing are set up as a modest level of control to assure these ends.

These examples are typical of the unhappy communications we occasionally receive. We are grateful for the far larger number which include praise, and we appreciate that some of the complaints are fair and accurate. The licensing for MMSFORTH is more awkward than for most common microcomputer products, but this permits us to market a very complex package with reduced pricing for personal users and still at low cost for professional shops. Neither group has to suffer the limited-backup protection built into many microcomputer programs.

However attractive the bargain, not everyone has spare money. But we are sometimes bemused by the "hobbyist mentality" in the office. Consider the manager who decides that an additional \$1,000 software cost is prohibitively expensive. Balanced against the likelihood of significantly increased efficiency on his inventory of perhaps \$50,000 of personal computers and \$300,000 per year overhead of professional users, he should be begging for more of our kind of products. MMS or a professional MMSFORTH user could be saving his company still more money through a sensible schedule of custom installation and user training, but instead he will "economize" while his computers work in low gear, if at all!

MMS will continue to solicit new ideas. We will continue to offer early fixes where appropriate and possible, to consider better products for all users in the future, and to share your more special solutions

NEW AT MMS

MMSFORTH VERSION 2.2 GETS SUPPORT FOR DAVONG & CORVUS DRIVES, IBM XT & COMPAQ COMPUTERS

More features have been added to MMSFORTH V2.2, presently in beta test phase for the IBM PC. These features include support for the Davong and Corvus hard disk drives, and modification to match to the new IBM XT (with hard disk) and the COMPAQ portable computer. Selling price of the improved V2.2 system is expected to remain the same as V2.1.

Here's some early information on the controversial new COMPAQ "IBM-compatible" computer. At MMS, we like it but think the word compatible is apt to be misunderstood. Most so-called compatibles cannot even boot the MMSFORTH diskette. But V2.2 now runs smoothly on either the COMPAQ or the PC. All our standard applications run fine, too. But the systems are not identical. The COMPAQ displays a non-standard mix of "IBM monochrome" fine characters with the high-resolution graphics screen (very nice), but its RGB color output jack cannot display the MMSFORTH low-resolution graphics set (for example, our KSCOPE demo program). And the COMPAQ's disk drives don't meet the tolerances of the Tandon drives used on early IBM PC's; we have had to adjust our optional SYS and BIG disk formats for the COMPAQ, and the M.3 disk format is not reliably accommodated by it or the latest PC's. Just a few more reasons for professional users to come to MMS for consulting assistance when it's time for system selection!

V2.2's DISKDATA elements were initially expanded from 9 or 10 bytes to 14 each, and now each of the eight possible drive sides gets a full 16 bytes to accommodate a flexible formatting capability for everything up to and including hard disk drives. The new interface to the Davong hard disk drive has a very fast data transfer rate: 90 Kbytes per second, which is far faster than the Davong/PCDOS version. Our Corvus hard disk drive interface has faster track to track access but cannot support as high a transfer rate, and the IBM XT falls in between. As we create other hard disk drivers on client request, they will become available for other users.

Work also is proceeding on the transfer of MMSFORTH V2.2 to the TRS-80 computers: Models 1, 3 and 4. Latest V2.2 draft copies will continue to be available for our IBM PC and COMPAQ users, but final release of V2.2 will be delayed in order to ensure maximum compatibility between all versions.

DATAHANDLER-PLUS GETTING MORE FEATURES

Like MMSFORTH V2.2, the release of DATAHANDLER-PLUS has also been postponed for the addition of major new features. We're presently adding very flexible input screen and data display features, which in turn will delay completion of some of the other routines. Draft versions are available for the IBM PC and COMPAQ computers, and last issue's DATAHANDLER trade-in discount will be extended to one month after we announce availability of the final product.

FORTHCOM HANDLES FILES:

Our FORTHCOM communications program has benefitted from some recent modifications. It now can transfer data to and from "foreign" computers through their disk operating system's filenames, and can identify data locally by Forth blocks as before, or by MMSFORTH-style filenames when used in conjunction with FORTHWRITE, THE DATAHANDLER, etc. Menu adjustments are now available for such high-speed transmission settings as character and end of line delays. TRS-80 versions also support printer spooling; the present PC version (running on MMSFORTH V2.1) does not, but an upcoming version for MMSFORTH V2.2 will. FORTHCOM still costs \$39.95. Licensed users can upgrade their present FORTHCOM diskette for \$10.00 plus shipping/handling.

through this Newsletter. When we disagree, we still appreciate the opportunity to compare differences. We hope the above discussion will make our own response (and sometimes, our lack of response) more understandable to you. Towards more efficient communication...

INDEX OF ARTICLES, MMSFORTH NEWSLETTER VOLUME II

Here it is, the second volume of articles from this exciting and continuing series. Like the first volume, MMS also will provide it in file form on all new DATAHANDLER and DATAHANDLER-PLUS diskettes, and grants you permission to share it with other licensed users of those programs. Codes used include Beginner, I(termediate, A(dvanced, D(atahandler, G(ames, general L(edger, U(utilities, forthW(rite, F(orth training, P(eripherals, M(odifications, N(eu products, and O(ther. This index was created in our newest draft version of DATAHANDLER-PLUS, its REPORT command was used to "print to disk" as a FORTHWRITE-readable file, and then we edited it with FORTHWRITE to adjust it for the proportional printout which follows.

2:1	1 MNO Editorial	2:3	1 OF Editorial	2:4	Next computer, beta-test now	
	A 2nd-Birthday Present for MMSFORTH!		V2.0 Tape Pushed Off by Other Projects	3	DNMOF Jim Gerow	
2:1	1 O	2:3	No V2.0 tape		MF Glossary on Quick-Ref. Disk	
	Get-Together	1	O	V2.0 version now available via JG		
2:1	User groups update	2:3	Dr. Dobbs Journal Features Forth	3	NL	
			Spec. issue, Sept.1981		GENERAL LEDGER	
2:1	1 DI	2:3	1 NU		GL now in beta-test	
	DATAHANDLER Custom Mods		MMSFORTH Auto-Assembler	3	BPQ Tom Dowling	
	FIELD,TFIELD,NAME,RECORD-#,FIELD-#		New utility coming		Model III Video-Suppression	
2:1	1 NG	2:3	1 NO	4	M Martin Smith	
	CRYPTOQUOTE Now on GAMES Diskette		Meet Us At The Fair		CHECKBOOK Patch	
	Cryptoquote puzzles solver		Meetings in Boston and CA		Corrects error	
2:1	2 BQ	2:3	1 NL	4	MF	
	Keyboard Monitor Routine		MMSFORTH GENERAL LEDGER		Hot Patches & Insights for V2.0 Manual	
	Monitors keyboard scan codes		New GL coming		Various changes or explanations	
2:1	2 PI Jim Gerow	2:3	2 G Jill Miller	4	NB Bill Barden	
	Run a Light-Pen in MMSFORTH		Cryptoquote		TRS-80 Disk Interfacing Guide	
	V2.0 mod for lightpen		Puzzle		Book review	
2:1	2 PMB	2:3	2 BQ	4	FMP John Newgas & Victor Saleh	
	Lower than Lower-case		Cube Puzzle		Disk I/O Code Change (M.1)	
	Fix to V1.9 article in 1:6		2 PIC		English M.1's need V2.0 adjustment	
2:1	3 O	2:3	Speaking Forth with Type-'N-Talk	4	NB Stephen Morse	
	MMSFORTH Newsletter Index, Vol.1		FORTHCOM driver for TNT		The 8086 Primer	
	All articles from 1st year	2:3	2 AF Tom Dowling		Book review	
2:1	4 O		Hashecode Algorithm	4	NB Howard Howe	
	New York City Exhibit, May 21st-23rd		V2.0 hashecoding of wordnames		TRS-80 Assembly Language	
2:1	4 N	2:3	3 CN MMS		Book review	
	MMSFORTH Version 2.0 Expected in June		FORTHCOM Manual	1	NU	
	First released information on V2.0		Now available		Turtle Graphics for IBM PC	
2:2	1 O FORTH DIMEN., V2.4, p.112	2:3	3 O		Update now for graphics wordset	
	MMSFORTH Outclasses Rest on Benchmark		Get-Together	1	O Editorial	
	Benchmark comparisons		User groups		Making Up for Lost Time	
2:2	1 O	2:3	4 IM		First after long pause	
	Get-Together		Factorial Numbers	1	NBF C.H. Ting	
	User groups		Solution to last issue's problem		System Guide to FigForth	
2:2	1 N Editorial	2:3	4 IMP		Book review	
	MMSFORTH V2.0 Was Worth the Wait!		Printer-driver Options in V2.0	1	NBO Don Lancaster	
2:2	2 IM Dave Campbell		Extended printer-driver option		Incredible Secret Money Machine	
	Souping Up the SEARCH Facility	2:3	4 MBQ		Book review	
	Modify SEARCH Util.		Screen-Scan	1	NW	
2:2	2 ID Jill Miller	2:3	Correction for prior issue		FORTHWRITE	
	DATAHANDLER Custom Mods		4 IU Mike Erdmann		New features, final doc. by H. Baughan	
	Add T(railing selections		F-P Arrays & FRND on Utilities Disk	1	NL	
2:2	2 B David Huntress	2:3	New FP definitions		GENERAL LEDGER	
	TWINKLE		4 IMD		More soon	
	good demo, Kaleidoscope variation	2:3	DATAHANDLER Trailing Match	1	NBF Ken Knecht	
2:2	2 IO Dave Lindbergh		Correction for last issue		Introduction to Forth	
	Towers of Hanoi	2:4	1 O Editorial		Book review	
	recursion demo		Are You With Us?	2	IF Russ Hensel	
2:2	2 I David Huntress	2:4	Update for general distrib.		Some Forth Utility Words	
	SIMON Goes FORTH		1 BFQ		Interesting optional words	
	In V2.0 Manual	2:4	Do-It-Yourself Arrays - Sort of..	2	MF	
2:2	2 BQ		1 O		Mod for IBM PC System Disk	
	A Hidden Starburst in Game of LIFE		Get-Together		Required minor mods	
2:2	2 PO	2:4	User groups	3	BMP	
	Please Share Your Mods!		2 MDINP Wynne Keller & Jill Miller		Special Disk Drives	
2:2	3 BQ		Recent Mods to DH V1.2	2:5	V2.0 DISKDATA mods	
	Using MOD to Measure Your Output		PAGE to CR for printer, big-rec. protect		3 DM Peter Wilkins & Michael Cook	
	Displays a SCALE	2:4	2 G Jill Miller		Mod to DATAHANDLER V1.2	
2:2	3 BPQ		Cryptoquote Puzzle		Required DH CHANGE mod, for overflow	
	Label-Writing Routine	2:4	2 BF David Huntress	3	BFQ	
	Simple label copies		Kaleidoscope Speed-up		An Improved Way to Use CUSTOMIZE	
2:2	3 I John Rible		Faster demo program		FORGET DIR EMPTY-BUFFERS ->	
	An Output Diversion Utility	2:4	2 IF		DIR CUSTOMIZE	
	CATALOG to disk!		CUSTOMIZE a NOTEPAD System	2:5	3 BFPQ	
2:2	3 IM Truman Krumholz	2:4	Project using CUSTOMIZE		Add Bold-Printing to The NOTEPAD	
	Another Hex-Alpha DUMP Utility		2 IF		Easy exercise, and useful	
2:2	4 BQ	2:4	Double-Precision Factorial Numbers	2:5	3 MPW	
	SCREEN-SCAN		Problem solution using recursion		Mod for IBM PC Printer Cable	
2:2	4 NO A.R. Miller	2:4	2 BFP Michael K. Cook		Required mod to PC cable w/Spinwriter	
	MMSFORTH Users Manual		Banner	2:5	4 O	
	Book review	2:4	Prints banners		Get-Together	
2:2	4 NO Harry Katzan, Jr.		3 WN		User groups	
	Invitation to FORTH		FORTHWRITE	2:5	4 G Jill Miller	
	Book review	2:4	WP now in beta-test		Cryptoquote Puzzle	
2:2	4 BM		3 MP Dave Lindbergh		Puzzle	
	Hot Patches for V2.0		Type-'N-Talk Cables - Getting It Straight	2:5	4 PBM Albert Strauss & John Rible	
2:2	4 NP	2:4	Correction to prior cable instructions		TRS-80 Ser-ptr for ProWriter/NEC8023	
	FORTHCOM Is Here!		3 BMFQ Bernie Bergman		Add TRS-80 graphics characters	
	New Comm. Program	2:4	Lowercase Shelf-Shift	2:5	4 BFQ	
2:2	4 IMP		Making dir work like DIR		'Array' Solution	
	Printer-Driver Options in V2.0	2:4	3 O		Solution to prior exercise	
2:3	1 NW		Keep It Clean!	2:6	1 O Editorial	
	FORTHWRITE	2:4	Cleaning MMSFORTH binder		Five Years With Microcomputers	
	New WP coming		3 OFA		MMS history	
2:3	1 NF Leo Brodie	2:4	AUTOCODER		2:6	1 BFWQ
	Starting Forth		Auto-Assembler in development		The Case of the Two-Bit Text Twiddler	
	Book review	2:4	3 NF		Deteeting a hardware bug	
			IBM Personal Computer			

2:6 1 NFP	2:6 3 NUP	2:6 4 NFO
Introducing, MMSFORTH V2.2 for IBM PC! Available for PC beta-test	Turtle Graphics for IBM PC New hi-res screen-dump to printers	Tom Dowling, Dick Miller MMSFORTH User Workshops for 1983
2:6 1 ND	2:6 3 MBF	2:6 4 G
Introducing, DATAHANDLER-PLUS! Also beta-test for PC, upgrade from DH	MUG & John Rible MMSFORTH Editor Custom Modifications	Jill Miller Various offerings throughout 1983
2:6 2 FDI John Rible & Tom Dowling Tech. Papers: File System in MMSFORTH FORML reprint (11/81), DH file form	2:6 3 NL	2:6 4 NO
2:6 2 BFM Russ Hensel Some Forth Utility Words (Pt.2) Continued	GENERAL LEDGER Beta version now has expanded manual	Time to Renew Your Subscription! V.3 of MMSFORTH Newsletter coming
2:6 3 NO	2:6 3 MPW	
Action Graphics - A Demo Diskette Demo PC disk w/perspective & rotations	FORTHWRITE Settings, Okidata & NEC Addl. printer settings for FORTHWRITE	
	2:6 4 O	
	Get-Together User groups	

INSIDE MILLER MICROCOMPUTER SERVICES

FORTHWRITE ADDS CENTRONICS 737 AND NEC 3550 ("IBM") PRINTER-DRIVERS

FORTHWRITE, the MMSFORTH word processor, has just received an additional custom PS/10 (proportional and constant pitch) printer-driver for the popular Centronics 737 printer. It also should be compatible with the Centronics 739 and we will appreciate user feedback in this regard. The 737 driver comes on all new FORTHWRITE diskettes, but the IBM version (with which it is compatible but would be rarely used) does not list it as a FORTHPRINT Menu "Set" option. Similarly, a driver for the NEC Spinwriter 3550 ("IBM-special") printer exists on all recent versions, but the TRS-80 versions do not list it as a FORTHPRINT Menu "Set" option. Either can be found in the printer-drivers section of the source disks, and you may use COPIES to substitute it for a superfluous driver option. You are invited to update your original FORTHWRITE source disks for \$10.00 plus \$2.00 shipping/handling.

GENERAL LEDGER

Is now running on IBM PC and COMPAQ computers, as well as the earlier TRS-80 Models I and III. MMS also can provide a MMSFORTH-expert accountant to introduce your company or your company's accountant to this very high-performance General Ledger system. He observes that other accounting firms are beginning to apply it, in parallel at their own and their clients' offices, for more efficient handling of an increased volume of client accounts.

MMSFORTH MODIFICATIONS

SPINWRITER 5530 PRINTER BUG AFFECTS FORTHWRITE

MMS has tracked a FORTHWRITE bug report to a previously undocumented board-logic problem in many NEC 5530 printers (the fast, "Centronics-parallel" predecessor to the 7730). If appropriate, your NEC field service engineer can provide a free replacement PROM chip which corrects the problem. And MMS has a patch to relieve the pain until it arrives.

Symptom of the bug is very occasional misprinting under FORTHWRITE's Spinwriter PS/10 printer-driver, with linefeed preceding the carriage return so the first letter of a new paragraph, for example, might appear at the right side of the new line, under the end of the prior sentence, with the rest of its paragraph starting at its left and overtyping it. The bug at first appears to be random; however, it will repeat if the unchanged document is reprinted, and deleting any character from the prior line will "correct" it.

FORTHWRITE can be patched to override this problem, but only by inhibiting its vertical-centering feature. This has been done on many copies shipped from MMS before NEC could offer the better solution. The patch is in Block 1 of the NEC Spinwriter printer-driver, typically on Block 97 of Source Disk #2. Insert 0 ZEMIT in Line 13, so it now reads: 13 : NPRINT-LINE (cnt ->) BL TO _CZ PSPACES 0 ZEMIT _C TO _CZ

Note that many of our present FORTHWRITE disks have this patch, at the cost of their vertical-entering feature (VC=). If you do not require this patch, carefully move the _CZ from the right end of Line 13 to the beginning of Line 14 to make room, then paren out the offending 0 ZEMIT in Line 13.

If you find that the patch removes the error, you are a candidate for the replacement chip from NEC. Contact your NEC Field Service regional office, and say that you own a NEC 5530 Printer and its G9BNB Board's Z6 PROM appears to need an upgrade to Revision 7 or later. (The board is second from the back, and the chip in position Z6 will have a Revision Code mark of a circle for Rev. 5, circle and dot for Rev. 6, circle and 2 dots for Rev. 7, etc.) NEC may swap the whole board or the single PROM chip. Once the update is done, you can remove the 0 ZEMIT patch in your Spinwriter printer-driver to restore vertical centering.

INSIDE TRACK (for intermediate users)

PERIPHERAL TALK

EASY FIX FOR AST RESEARCH'S MEGAPLUS LARGE-RAM BOARD

If you equip your IBM PC with the new MegaPlus combination board from AST Research and your printer suddenly slows to first gear, don't despair. A MMS bug report has been traced to a design error on that board; the manufacturer says new production will be corrected, and it's a simple fix on the current boards as well.

This extended-memory board also offers a variety of add-on options, including a parallel port which is the source of the trouble. The board's circuitry **permanently enables that optional port** (Pin 3 of Chip U73 to IRQ7); when the option is not present, interrupt processing via your existing parallel port (for instance, by FORTHWRITE's Spinwriter PS/10 driver) becomes **very** slow. For a temporary solution, tuck a strip of Scotch tape over Pin B21 (Interrupt Request 7) on the MegaPlus board edge. If you do not plan to use the optional parallel port later, we recommend cutting its trace at Position IRQ, instead.

NEW LICENSE TRANSFER OPTION

We've always offered inexpensive MMSFORTH upgrades while you are on the same computer, and our corporate site licensing lets users come and go within a licensed building. But MMSFORTH personal licenses have been nontransferrable. Have you moved on to another computer, and want to exchange your MMSFORTH as well? Or would you rather pass the same version on to a friend or to the purchaser of your old computer, now that you are done with it? On a trial basis, MMS proposes to offer a new method for transferring MMSFORTH personal license agreements.

Here's how it will work. At least 12 months after purchase or most recent transfer, the complete system of MMSFORTH products under your personal license may be returned to MMS for reissue, under new serial numbers and license agreements, to another person using the same type of computer, or to yourself for another appropriate type of computer. You as "source user" must get a transfer agreement from MMS, then return it to MMS with the transfer fee and all the original source disk(s) and manual(s), also warranting that no copies of any of the licensed software or documentation have been distributed elsewhere and that all remaining disks which held any of the licensed software and documentation have been conveyed to MMS or erased. MMS will recycle the MMS binder(s) and diskette(s), updated to the current version(s), to the destination user you identify.

The intent is to offer one more level of support to qualified users who have no more use for a specific MMSFORTH system, while maintaining license protection for users and for MMS. The transfer price is designed to offer an incentive to continuing use while reimbursing MMS for the new license. In general, the transfer charge for each licensed item of software will be either 50% of its new list price plus 100% of the difference between old and new list prices, or 80% of the new list price; whichever is less. Also, you must provide shipping/handling cost and shipping address for the destination user. An approximate example: you want to transfer your MMSFORTH V1.9, which sold for \$80 list, to another TRS-80 Model I owner, and currently V2.0 sells for \$130. You also own a UTILITIES Diskette (still \$40) and THE DATAHANDLER (still \$60). The MMSFORTH transfer will cost the lesser of \$115 or \$104, the UTILITIES \$20 or \$32, and THE DATAHANDLER \$30 or \$48. Choosing the least expensive for each, your entire system can be transferred for \$154 (plus S/H), compared to the new list price of \$230: a savings of 33%.

In summary, if you are moving to another computer or must bid your MMSFORTH system goodbye, you are invited to contact MMS for a personal license transfer form to keep your MMSFORTH system in action.

THREE NEW BOOKS, PLUS ONE PRICE INCREASE:

FORTH PROGRAMMING, by Leo Scanlon	\$16.96
AND SO FORTH, by Timothy Huang	\$25.00
1982 FORTH CONFERENCE PROCEEDINGS	\$25.00
STARTING FORTH, by Leo Brodie	\$17.95

Many of our users will find the three new offerings good. Note that STARTING FORTH -- still our favorite -- has gone up in price to \$17.95 in softcover and \$21.95 in hardcover. Please don't blame us, because we didn't do it! All these books are in stock at MMS.

FORTH PROGRAMMING does a good job of explaining Forth, and does more than most to explain the differences between figFORTH and 79-Standard Forth. If you only use MMSFORTH you will value only the latter, but if you also use a figFORTH version on some other project you may appreciate the comparison. The book also promises over 50 programs with source code. But not for you. Too many of them fall within the wealth of additional programming MMSFORTH includes anyway. Because we give so much more than the typical figFORTH, these examples offer little for our users. We don't claim to be experts with figFORTH (and some of our users tell us that's just as well), but we do know the 79-Standard Forth Reference Manual and we find that Mr. Scanlon didn't read it as carefully as he might. FORTH PROGRAMMING has these weak points, but we still think you'll enjoy the book.

AND SO FORTH is an unusual book on Forth philosophy, and also contains a wealth of specific information on what to do with Forth, how to approach big jobs using it, and more. The book was created in the mold of the excellent Forth workshops taught by Kim Harris. In fact, we initially feared that it might be pirating some of his better ideas and techniques. Kim assures us that an appropriate accomodation has been made, and that he may be using it in his future workshops. MMS already does. If you've mastered STARTING FORTH and PROGRAM DESIGN & CONSTRUCTION, and you haven't attended our intermediate workshop, this will add some good ideas. The relatively high price of AND SO FORTH is hardly justified by the poor but readable print quality, but the content makes it worthwhile.

The Proceedings of the 1982 Forth Modifications Laboratory in Asilomar, California has just been published, and we recommend this volume to our advanced users. Its 44 presentations just bubble with ideas for major and minor revamps of Forth itself, and doement these ideas with a wealth of 79-Standard Forth source code. It's much less expensive than attending the Conference itself. Less fattening, too!

MMSFORTH USER WORKSHOPS FOR 1983

MMS offers a regular schedule of Boston-area MMSFORTH Workshops for a variety of topics and ability levels. See the prior issue, or contact MMS for further details.

CRYPTOQUOTE PUZZLE, by Jill Miller

The solution to last issue's cryptoquote is:

· ON THE FORTH DAY OF CHRISTMAS MY TRUE LOVE GAVE TO ME,
A FORTHWRITE FOR MY (IBM PC)/(TRS-80).

The March 1983 issue of Softalk Magazine announced a limerick competition which we entered with this new cryptoquote. Enjoy solving it using your MMSFORTH GAMES DISKETTE:

FCNWVTWOGFK BVUIWKKUV QJTK LWKVQ VJOWS MJTLXJLWK
LUUS, NJS JTS
RUVKO: JBM, JSJ, FUNUM, BF-NJKGF, OQWT KTUNUM, JTS
PPKIUVOQ
FJPW GT IGVKO.

GET-TOGETHER

Share your questions and answers with a MMSFORTH User Group! Contact MMS for help to start one in your region, or to revive one which seems inactive. Here is our present list of contacts for local MMSFORTH User Groups:

AZ: Ida Ruth Davis, 3245 North Gypsy Lane, Tucson 85705 (602/888-0467)
 CA: George Greenwald, 9802 Effingham Drive, Huntington Beach 92646 (714/893-7531 x263 days, 968-1037 eves.).
 CA: Earl Mortensen, 974 Pleasant Hill Road, Redwood City 94061 (415/367-9882).
 CA: Ken Nonomura, 416 Duncan Street, Apt. 5, San Francisco 94131 (415/285-5062).
 CA: Rich Royea, 6456 Lubau, Woodland Hills 91367 (213/704-6859).
 FL: Bob Vest, 64 NW 111th Street, Miami Shores 33168 (305/751-7511 eves.).
 FL: Rieh Toussaint, 2158-D West Oakridge Road, Orlando 32809 (305/851-5216 eves.).
 IL: Walter Cooper, 5112 West 30th Place, Cieero 60650 (312/656-6183).
 LA: Ed Laughery, 1222 Jason Drive, Denham Springs 70726 (504/665-7537).
 MA: Jim Gerow, 22 Crestwood Drive, Framingham 01701 (617/443-9521 x3599 days, 872-1882 eves.).
 MI: Bob Zwemer, 6408 South Washington, Lansing 48910 (517/393-9287).
 NB: Bill Schneider, 1425 North 14th Street, Lincoln 68508 (402/786-2715 days, 476-3671 eves.).
 NH: Gregg Reed, RR2, Box 167, Dumbarton 03301 (603/774-5311 eves.).
 NY: Peter Karatassos, 756 Foothill Road, Big Flats (607/562-8212 eves.).
 PA: Gus Raab, 806 Freedom Circle, Harleysville 19438 (215/368-4866).
 TN: Cliff Fiedler, 1908 Belcourt Avenue, Nashville 37212 (615/327-9123).
 TX: Mike Allred, 3516 Esplendor Avenue, Irving 75062 (214/256-2882 eves., metro).
 TX: "J.J." Johnson, 1603 Elm Street, Georgetown 78626 (512/863-7409; CBBS on 863-0954).
 TX: Dan Healy, 11511 Katy Freeway, Suite 150, Houston 77079 (713/496-4660 days).
 WA: Rod Proctor, 13520 N.E. 29th Place, Bellevue 98005 (206/453-0635 days, 883-1923 eves., and MicroNet 70110,402).
 AUSTRALIA: Richard Taylor, 66 Russell Avenue, Valley Heights, New South Wales 2777 (047/51-3712).
 AUSTRALIA: Peter Wragg, 2 Jilba Street, Indooroopilly, Queensland 4068 (07/378-1623, and CL1641 on The Source).
 AUSTRALIA: Dave Dartnall, 20 Eldon Street, Dianella, Western Australia 6062 (09/446-8100).
 CANADA: Kalman Fejes, 1149D Meadowlands Drive East, Ottawa, Ontario K2E 6J5 (613/225-2443).
 ENGLAND: John Newgas, 1 Philip Court, 89 Hornsey Lane, Highgate, London N6 5LN (01/539-7071 days, 348-6518 eves.).
 JAPAN: Akira Akutsu, M.D., 2-176 Isshia, Meito, Nagoya, 465.
 WEST GERMANY: Nigel Head, Birngartenweg 93, 6100-Darmstadt

NOTE: Program trading is one popular facet of these meetings, but NOT commercial programs and WITHOUT MMSFORTH SYSTEMS aboard! Promote legitimate sharing, discourage pirating, and take care not to jeopardize your own MMSFORTH serial number.

THE LAST WORD: "FORTH FORGET BASIC ; ok"
- Mike Allred, Irving, Texas

(Editor: This one seemed too good to ignore! While the supply lasts, MMS will be pleased to tuck a high-quality "MMSFORTH FORGET BASIC" bumper sticker into your next order or into your own self-stamped envelope, for fifty cents extra.)



**FIRST CLASS
MAIL**